

black with two pale yellow spots above antennal bases. Antennae pale with three basal joints shining, remainder covered with short fine hairs, the tip of the last joint darkened, 3d and 4th joints subequal and long, 5th to 9th gradually wider and short. Prothorax about twice as wide as long at base, thence gradually narrowing to a rounded front that entirely conceals head, sinuate on the basal margin; a wide reddish hyaline margin, and a shining black, somewhat convex disc, with pale yellow spots, two anterior, three lateral, and five median; surface shining, with very fine scattered punctures, a deeply indented one on either side of middle in four of the five specimens. Scutellum tiny, rounded triangular, shining black. Elytra rounded convex, wider at the base than prothorax with wide margin with a reddish edge; humeri prominent, a thickening running into the margin from the humerus and also at the middle of the elytra; surface shining black with large irregularly shaped blotches of yellow; deep coarse but not dense punctures from the suture to the middle, these more or less striate but on the sides becoming denser and confused. Body beneath shining black with the apex of the femora, tibiae, and tarsi reddish; claws simple and widely divergent. Length 8 to 10.4 mm. Width 7.5 to 8 mm.

Type.—Male, and 2 paratypes, M. C. Z. Cat. No. 23637. 2 paratypes, U. S. Nat. Mus. Cat. No. 53283.

Type locality.—Constanza to Jarabacoa and Constanza, 2–4000 ft., Dom. Rep., collected in August, 1938, by P. J. Darlington.

Remarks.—This is the second species of the genus to be described. The other, *A. flavicornis* Oliv., described from Guiana, is very similar in size and coloring but the elytra are more closely punctate and do not have such large pale blotches. The aedeagus also differs in being less acutely tipped than in *A. darlingtoni*. When specimens were soaked in water, some of the original living colors returned and the yellow elytral spots became golden with green and blue iridescence.

TWO NEW SPECIES OF TACHINIDAE PARASITIC UPON HEMLOCK SAWFLY LARVAE IN NORTH AMERICA (DIPTERA : TACHINIDAE).

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In the course of studies of the hemlock sawfly, *Neodiprion tsugae* Middleton, by field workers of the Bureau of Entomology and Plant Quarantine, two new species of Tachinidae, one representing an undescribed genus, have been reared in numbers as parasites of the sawfly larvae. These are described at this time to make names available for use in economic and biological papers.

TSUGAEA, new genus.

Male and female.—Head height approximately two-thirds head width; length of head at antenna nearly twice length at vibrissa; bucca narrow in male, slightly wider in female; epistoma short, as wide as clypeus, and warped slightly forward; eye large, slightly oblique, strongly pilose; frontale narrowing toward lunule, striate; frontal width over one-third head width in both sexes, the margins gradually diverging from vertex to lunule, with a few scattered hairs outside frontal rows of bristles which diverge anteriorly and reach to base of third antennal segment; inner vertical bristles straight, reclinate; outer vertical bristles one-half to two-thirds as long as inner; postvertical and postocellar bristles weak, proclinate; frontoorbital bristles, two proclinate and one reclinate in both sexes; ocellar bristles strong, proclinate; facial carina absent; clypeus deeply impressed, wide, slightly dished; parafaciale almost three times as wide opposite lunule as below, bare; faciale rounded, very slightly bowed, bristled fully one-third the distance from the vibrissa to the antennal base in male and about one-half the distance in female; vibrissae at oral margin, widely separated in both sexes but more widely so in male; proboscis about half head height; haustellum about half as long as proboscis; palpus somewhat shorter than length of head at vibrissa, stout, filiform; antennal base well above middle of eye with head seen in profile, the bases approximated, first segment protruding slightly beyond profile of head, short, second segment short, third segment wide, fully four times as long as second, reaching nearly to oral margin; arista with penultimate segment elongate, apical segment thickened on basal half, micropubescent; back of head evenly rounded or slightly bulging.

Thorax with four humeral bristles; propleura bare; preintraalar bristles three; posthumeral bristle present; preacrostichal bristles three; predorsocentral bristles three; presupraalar bristle one; sternopleural bristles four; pteropleural bristle about one-third as long as upper squamal lobe; prosternum with one or two small setae laterally; postalar declivity bare; tympanic pit bare; postacrostichal bristles three; postdorsocentral bristles four; postintraalar bristles three; intrapostalar bristle well developed; scutellum with one discal bristle and three lateral bristles of which the intermediate one is weak, and with erect, decussate, apical bristles.

Legs with hind coxa bare posteriorly; anterior tibia with anterodorsal and posterodorsal rows of bristles; hind femur with anterodorsal row of bristles.

Wing with costal spine small or absent; third costal section nearly as long as fifth; only third vein with setulae and this with but two at base; apical cell closed in wing margin; fourth vein without apical section or fold, the angle obtuse, the apical cross-vein nearly straight; anterior cross-vein at middle of second section of fourth vein, oblique; posterior cross-vein gently arcuate; last section of fifth vein less than half as long as preceding section; upper squamal lobe small, bare, rounded; lower squamal lobe large, bare, posterior margin wide, truncate.

Abdomen with scutellar depression extending to hind margin of first segment; first segment with median marginal bristles; second and third segments each with one or two pairs of median discal bristles; fourth segment with scattered, erect, marginal rows of bristles; sternites covered by tergites.

Male genital segments retracted, small, second segment of medium size, globose.

Genotype.—*Tsugaea nox*, new species.

Remarks.—This form runs to *Ceratochaeta* in Stein's (1) and Baer's (2) keys, to *Exorista* in Coquillett's (3), to *Tryphera* in Lundbeck's (4), and to *Zenillia* in Curran's (5). It is a *Zenillia* in the sense of Aldrich.

Villeneuve kindly forwarded specimens of *Ceratochaeta prima* Brauer and Bergenstamm, the genotype, and of *Ceratochaeta setigera* Brauer and Bergenstamm, for comparison with this form. According to Villeneuve, *prima* has four dorsocentral bristles, *setigera* three. *Tsugaea* differs from *Ceratochaeta* by having an intrapostalar bristle and by having the apical cell closed in the wing margin. There are additional less obvious differences, but these will suffice to separate the two genera.

Coquillett's conception of *Exorista* covered all forms of tachinid flies having pilose eyes, the bend of the fourth vein not appendiculate, the faciale not setose for more than one-half the distance from the vibrissa to the antennal base, and the hind tibia often ciliate. This combination of characters covers a considerable number of distinct genera not closely related to *Exorista*.

The species of the Palearctic genus *Tryphera* are so different from the species here described that it is only necessary to point out that *Tryphera* has the apical cell petiolate and has but three dorsocentral bristles.

Tsugaea differs from *Zenillia* in having proclinate fronto-orbital bristles in both sexes, four sternopleural bristles, the eyes widely separated in both sexes, the penultimate arisal segment elongate in the male, and in other characters which are less obvious. In Aldrich and Webber (7) the males would apparently go to *Madremyia* and the females to *Phryxe*. Aldrich believed these genera to be closely related and he considered *Phryxe* to be only a subgenus of *Zenillia*. *Tsugaea* differs from *Phryxe* in having proclinate fronto-orbital bristles in both sexes, four sternopleural bristles, and the penultimate arisal segment less elongate. It differs from *Madremyia* by having the penultimate arisal segment shorter, by having four sternopleural bristles, by the less ciliate faciale, and by having proclinate fronto-orbital bristles in both sexes. *Phryxe* is placed in the tribe Lydellini and *Madremyia* in the tribe Frontinini by Townsend. *Madremyia* males have a double row of frontal bristles, but do not have proclinate fronto-orbital bristles.

The genus *Tsugaea* is most closely related to *Phyllophorocera* Townsend and *Masiceropsis* Townsend, and it will run to the latter genus in Townsend's (6) keys. The types of both these genera are in the National Collection. That of the former does not have proclinate fronto-orbital bristles in the male, the faciale is less ciliate, and the male claws are short. *Tsugaea* differs from *Masiceropsis* in that the eyes are distinctly pilose, the faciale is

less ciliate, the third antennal segment is over three times as long as the second, and there are median marginal bristles on the first abdominal segment and median discal bristles on the intermediate abdominal segments. *Masiceropsis* was considered a synonym of *Achaetoneura* Brauer and Bergenstamm by Webber (δ) and *pauciseta* (Coquillett), the genotype, a synonym of *Achaetoneura archippivora* (Williston).

***Tsugaea nox*, new species.**

Male.—Head with bucca 0.15 eye height, black, silvery pollinose, with black hair; frontale black, 0.25 frontal width; vertex black, shining or but slightly pollinose; frontal width 0.36 head width at vertex, 0.41 at lunule; clypeus brown to black; parafaciale black, silvery pollinose; palpus brown to black; antenna black; back of head black, mostly shining but with some indication of silvery pollen, and with two rows of postocular ciliae and abundant whitish hair.

Thorax black, mostly shining, with some silvery pollen, and with indications of darker longitudinal stripes in certain lights; preparapteron yellow, white pubescent; greater ampulla white or tawny pubescent; other thoracic sclerites at wing base black; scutellum with apex orange to brown on apical third or less; postscutellum whitish pubescent.

Legs black, slightly silvery pollinose; anterior tibia with one posterior bristle near apical third; middle femur with two pairs of anterior bristles near middle, one anterodorsal bristle toward middle, one ventral bristle near apical third, two posterior bristles, one near middle and one near apical third, and one posterodorsal bristle near basal fourth; posterior femur with about four anteroventral bristles and two ventral bristles on basal half; hind tibia with an anterodorsal row of bristles, two anteroventral bristles on apical half, and a row of posterodorsal bristles, two of which are longer and stronger than the rest; tarsi as long as tibiae.

Wing hyaline, milky in certain lights, rather brownish basally; subcostal sclerite orange brown to black, black pilose; basicosta black; squamal lobes yellow to yellow orange, rims orange brown.

Abdomen black, each segment shining on apical half or more, basally silvery pollinose, the pattern changeable in shifting lights.

Male genital segments shining black, with scattered, black hair.

Female.—Similar to male except for normal sexual differences, and in having bucca 0.25 eye height; vertex more silvery pollinose; frontale 0.50 frontal width, narrowing toward lunule, and frontal width 0.40 of head width at vertex, 0.50 at lunule.

Length, 4-6 mm.

Type.—Male, No. 53377, U. S. National Museum.

Type locality.—Sweet Home, Ore.

Type host.—*Neodipiron tsugae* Middleton.

Remarks.—A series of 56 specimens of this species was reared at Sweet Home, Ore., during April, May, and September, 1935, and 1936, mostly by R. L. Furniss, of the Bureau of Entomology and Plant Quarantine.

Diplostichus sellersi, new species.

Differs from the genotype, *janithrix* (Htg.) in both sexes by being smaller and more shining black, in each abdominal segment being shining black on the apical half or more, in the presence of two anterodorsal bristles on the middle tibia, and in the greater length of the head at insertion of antennae; male with but two reclinate fronto-orbital bristles; female without white pleural pile and the frontal width at narrowest is greater in relation to the full head width.

Length 4-7 mm.

Type.—Male, No. 53378, U. S. National Museum.

Type locality.—Sweet Home, Oreg.

Type host.—*Neodiprion tsugae* Middleton.

Remarks.—The type series was reared during April and September, 1935 and 1936, mostly by R. L. Furniss. One specimen of a series from Tahoe National Forest, California, reared from *Neodiprion* sp. (Hopk. U. S. 21,068B) (King Coll.), can not be separated from the others.

The genus *Diplostichus* has hitherto been known only from the Palearctic Region.

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A NEW BAT BUG FROM THE EASTERN UNITED STATES
(HEMIPTERA-HETEROPTERA: CIMICIDAE).

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From time to time during the past two or three years there have been submitted to the Bureau of Entomology and Plant Quarantine for determination numerous specimens of a bug which had been collected in the Eastern United States either in bats' nests or in quarters frequented by bats. These specimens agreed fairly well with the description of *Cimex pilosellus* Horvath and at first were thought to belong to that species; but more careful investigation shows that they represent a distinct, though closely related, species which is described below.